INTRODUCTION

North Carolina has a history of high infant mortality. In response to that general trend and to the state's particularly high rate in 1988, Governor James G. Martin created on December 13, 1989, the Governor's Commission on Reduction of Infant Mortality. The legislature followed with sizable appropriations to combat the problem.

The state's infant mortality rate dropped in 1992 to 9.9, the lowest in the state's history. Still, more than 1,000 babies died during their first year of life, and nearly 1,000 more were stillborn after 20 weeks gestation.

One means of saving the lives of more infants is to ensure that *all* women, and particularly those identified as being at high risk, receive appropriate and accessible prenatal care. The data of this report should prove useful for identifying groups at high risk for infant death as a basis for targeting intervention programs.

BACKGROUND FOR PRESENT REPORT

For many years, North Carolina has collected information on birth certificates about maternal characteristics that are known risk factors for fetal, neonatal, and postneonatal death. These sociodemographic risk factors include young and old age, low educational level, unmarried, high birth order, a previous pregnancy termination, or a child born alive who is now dead.[1] These factors may be ascertained as early as a woman's first prenatal care visit.

Since 1972, the State Center has routinely produced (triennially, then annually) state, region, county, and hospital-specific tables showing live births and corresponding fetal, neonatal, and postneonatal deaths and death rates according to birthweight and the various maternal characteristics associated with risk. Due to rising publication and distribution costs, these data are no longer distributed except by special request.

In 1988, a new birth certificate was implemented. Items were added and some existing ones revised to obtain new and better information on demographic, behavioral, and medical factors influencing fertility and pregnancy outcomes. The purpose was to provide better data for planning and evaluating maternal and child health programs.[2]

The present report is the State Center's first analysis of the statewide data since a report was last published in 1988 (1986 data). The purpose is threefold: 1) to examine changes in birthweight-specific fetal, neonatal, and postneonatal mortality over the past decade; 2) to see if the traditional maternal risks are changing and how; and 3) to measure the association between a poor pregnancy outcome and selected new items on the birth certificate. The latter aspect is made possible by the recent availability of four years of the new birth certificate data (1988-91) so that more stable mortality estimates are possible.

In considering the results of this study, the reader should keep in mind that the risk factors are often *markers* for infant mortality, not necessarily causes. Birth to an unwed mother, for example, does not cause infant death; rather, associated factors such as socioeconomic status, stress, and lack of medical care are among the underlying causes of higher infant death rates among unmarried mothers. Marital status of the mother is thus a surrogate measure for a variety of other related factors for which data are not available. The point is to use available data for targeting resources toward populations most in need.

TECHNICAL NOTES

The definitions and death rate formulas used in this report are given on pages 13 and 14. The reader should note that, in the case of neonatal, postneonatal, and infant deaths, only those matched to a birth certificate are used. Also, the numerator of a death rate is the number of deaths among infants ***born during the period of study***. Although 1992 deaths are now available, 1991 is the latest birth year for which infant deaths have been matched to a birth certificate.

Detailed tables for the 1988-91 period are provided in Appendices A and B while text tables are used to highlight changes over the past decade (Tables 1-5) and findings from the analysis of medical risk factors (Tables 6 and 7). Users will note in Tables 1, 3, and 4 that data for an earlier time period are for five years rather than four (in order to use available rates). However, the current and former death rates are directly comparable.

RELATIVE CHANGES IN BIRTHWEIGHT-SPECIFIC MORTALITY

For the two time periods used in this study, Table 1 shows total and birthweight-specific death rates and percent changes by race.

For all birthweights combined, whites experienced the greater percentage reductions in fetal and neonatal